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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,617	01/31/2006	Hisatoshi Motoda	10873.1856USWO	7433

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EXAMINER	
GRAY, JILL M	

ART UNIT	PAPER NUMBER
1798	

MAIL DATE	DELIVERY MODE
12/21/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,617	MOTODA ET AL.	
	Examiner	Art Unit	
	Jill Gray	1798	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24,28,32-36 and 47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24,28,32-36 and 47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/05/2010;08/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Pursuant to the entry of the amendment of September 10, 2010, the status of the claims is as follows: Claims 24, 28, 32-36, and 47 are pending. Claims 1-23, 25-27, 29-31, and 37-46 are cancelled. Claims 24, 28, and 32-36 are amended. Claim 47 is new.

2. The rejection of claims 24, 29, 37, and 42 under 35 U.S.C. 112, second, paragraph is moot in view of applicants' amendments.

3. The rejection of claims 29-31 under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication JP200-215872 in view of PCT Publication WO 95/06769, Van Hartesveldt, 2,841,823, and Noltex Soamel DI 2903 and ECALCA EVAL F100 material data sheets is moot in view of applicants amendment cancelling these claims.

4. The rejection of claims 37-46 under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication JP 200-215872 in view of PCT Publication WO 95/06769, Van Hartesveldt, 2,841,823, and Noltex Soamel DI 2903 and ECALCA EVAL F100 material data sheets and further in view of Sisson 4,209,563 is moot in view of applicants amendment cancelling these claims.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 24, 28, and 32-36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication JP2000-215872 (machine translation)

and translated excerpts provided by applicants (hereinafter referred to as "the translation") in view of PCT Publication WO 95/06769 (Foster) and Noltex Soarnel DT 2903 and EVALCA EVAL F100, material data sheets, cited to show the state of the art, for reasons of record.

Regarding Independent claim 24

The translation disclose a method for producing a fiber structure containing a fiber, a binder resin on the fiber surface and a filler material attached to binder resin. See entire document. The translation discloses the steps of providing a filler dispersed solution, impregnating, sprinkling or applying the solution to the fibrous structure and performing wet heat adhesion at a temperature of not less than 70°C to the fibrous substrate to anchor the filler material to the fiber surface and forming a filler-affixed fiber. See [0020]. Also, the translation discloses in Embodiment 1, that the wet heat adhesion was carried out at a temperature of 135°C. In addition, the translation discloses that the fibrous structure comprises bicomponent fibers wherein one component is an ethylene-vinyl alcohol copolymer which has the ability to adhere in wet heat and another thermoplastic synthetic fiber component. See [0006] and [0009]-[0010] and [0031].

Regarding the requirement that the binder is a heat and humidity gelling resin, the translation discloses that the ethylene vinyl alcohol copolymer forms an adhesive in wet heat. See claim 2 of translation. It is noted that ethylene vinyl alcohol copolymer is the same type of resin disclosed by applicants as being a heat and humidity gelling resin. Absent of other distinguishing characteristics of present claim 24, the examiner

has reason to believe that the ethylene vinyl alcohol copolymer that forms an adhesive component when subjected to heat and humidity of the prior art is substantially the same as the heat and humidity gelling resin fiber components contemplated by applicants. Accordingly, the examiner has reason to believe that the prior art composition forms a gel when subjected to heat and humidity thereby allowing the grains to become affixed to the binder resin. "Products of identical chemical composition can not have mutually exclusive properties." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are provided by identical or substantially identical processes, a *pima facie* case of either anticipation or obviousness has been established. *In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The burden is upon the Applicant to prove otherwise. Note MPEP 2112.01

Regarding the requirement that the heat and humidity atmosphere has a temperature range from not less than the gelling temperature of the heat and humidity gelling resin to not more than the melting point minus 20°C, it is the examiner's position that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller,* 105 USPQ 233 (CCPA 1955). In the present case, the translation discloses that

the wet heat adhesion step is performed at a temperature of not less than 70°C and further discloses in the example the wet adhesion step being conducted at a temperature of 135°C. Note material data sheets Noltex Soarnel DT 2903 and EVALCA EVAL F100, of various commercially available ethylene vinyl alcohol copolymers which show melting points at least 20°C above the temperature disclosed by the translation, cited to show the state of art. The translation also discloses that this process results in the anchoring of the filler material to the fibrous substrate. Hence, the general conditions of the present claim are disclosed. Moreover, while the translation is silent as to the specific gelling temperature and melting point of his ethylene vinyl alcohol copolymer, the skilled artisan would reasonable presume that for the adhesion of the filler materials to the fiber substrate to occur, the wet adhesion atmosphere must be greater than the gelling temperature of the resin. It would have been obvious to one having ordinary skill in the art to maintain the temperature lower than the melting temperature of the resin in order to maintain some degree of integrity of the fibrous structure while adhering the filler materials thereto.

The translation does not specifically disclose that the wet heat adhesion is performed with steam.

Foster teaches a method for bonding a fiber assembly and fiber assembly formed therefrom comprising impinging a high steam temperature jet on the assembly to melt a melt component to fuse the fibers together and form a fiber molded body. See entire document, for example, abstract. In addition, Foster teaches that the melt component

may be a melt fiber that is a bicomponent fiber having at least one thermoplastic component.

It would have been obvious to one having ordinary skill in the art to perform the wet heat adhesion as taught by the translation with steam as taught by Foster, with the reasonable expectation of the filler material adhering to the fiber surfaces and the fibers fusing to form fibrous structures and molded bodies.

Regarding dependent claims 28 and 32-36

Regarding claim 28, the translation discloses that the filler can be applied as an aqueous solution to the bicomponent fibers. See [0020].

Regarding claim 32, the translation, as set forth above, discloses that the preferred resin includes ethylene vinyl alcohol copolymer resin. See claim 2.

Regarding claim 33, the translation discloses that filler materials have a particle size within the present claimed range. See [0014] and [0032]. Moreover, it is the position of the examiner that where there is not substantive change in function or properties of the particles, the specific particle size or a change in size is not construed to be a matter of invention in the absence of factual evidence to the contrary of unexpected or superior properties directly related to the specific particle size.

Regarding claims 34-36, the translation discloses that the filler materials are inorganic particles, such as alumina or titanium dioxide. Accordingly, the requirements of these claims are not construed to be a matter of invention in the absence of factual evidence to the contrary. See [0013] and [0032].

As to claim 47, this requirement is drawn to the apparatus used in hte process and adds no patentable weight.

Examiner's Conclusion

Therefore the combined teachings of the translation and Foster would have rendered obvious the invention as claimed in present claims 24, 28 and 32-36.

Response to Arguments

7. Applicant's arguments filed September 10, 2010 have been fully considered but they are not persuasive.

Applicants argue that Foster fails to teach or suggest performing a heat and humidity treatment where while substantially preserving a fiber form.

The examiner disagrees. In particular, the translation discloses that bicomponent fibers are used, wherein one of the polymeric components has adhesion ability with wet heat so that the filler material will anchor. See [0009]. This teaching provides a suggestion that upon heating, the outer polymer will melt to some degree to allow the filler to adhere. This does not preclude the inner core fiber from maintaining its fiber structure, which helps the integrity of the textile. It would have been obvious to one having ordinary skill in the art to adjust the processing steps during routine experimentation based upon the desired textile integrity.

No claims are allowed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/
Primary Examiner
Art Unit 1798

jmg